

PREFACE.

A growing interest in a subject, whose obscurity has always been a matter of regret, has culminated in a popular request for an authentic and detailed history of this indefinite period. In response to this express desire on the part of the public who are cognizant of the matter, has been compiled the accompanying personal history of the late Mr. Zerah C. Whipple. His colaborers in the advancement of the condition of the deaf are earnestly desirous of according to him the formal recognition and appreciation which has thus far been withheld, although the necessity resulting in this neglect has been universally regretted.

The analysis of the theories and methods of instruction pursued by this lamented benefactor of the deaf, (incidentally included) were considered indispensable to an adequate understanding of the full extent and importance of the achievements of Mr. Whipple. It has been suggested, also, that through a discussion of the subject, and the consequent dissemination of a more intimate knowledge of his theories, the influence of his intelligent observation and the results of his extended and careful research cannot fail to exert an added inspiration to present and future efforts tending to the accomplishment of the same nobly beneficent designs.

I have been chosen as the instrument of directing the movements of the search-light of history which is at last being brought to bear upon an epoch, hitherto virtually neglected and unobserved. This grateful task affords a method of acknowledging a boundless debt of personal gratitude to a benefactor whose influence altered the entire trend of an existence for its ultimate and permanent good. It has nevertheless been undertaken with a distinct and abiding sense of the inadequacy inevitably resulting in consequence of intervening obstacles which under less favorable auspices would have been virtually insurmountable.

The personal experience, from which most of the accompanying details have been deduced, and the particulars of the

instruction received under Mr Whipple's direction when a child of eight years, together with various substantiating particulars which have since been supplied, constitute the chief claims of this resume as to veracity, reliability and general truthful consistency

An experienced educator of the deaf could discuss to manifestly better advantage the pros and cons, the accruing benefits or the possible defects of this system, and the field of debate has been carefully avoided, with the expectation of a future movement in that direction by others who are better fitted to consider each and every feature of the methods of Mr Whipple, and to compare them impartially with those of his successors

The mere fact of the personal benefits which have resulted from Mr Whipple's instruction has of itself been productive in a few instances of an involuntary argument in its behalf. If an ill-concealed enthusiasm is apparent here and there, it is altogether justifiable, when attributed to one who has every reason to acknowledge the accruing advantages of this efficacious mode for the restoration of a faculty so nearly and irrevocably lost. That the assumptions are neither mistaken nor overdrawn has been proven conclusively by a comparison with the theories of other inventors of this class, chief among those (at command) being Mr Edmund Lyon

In the admirable exposition of his Phonetic Manual recently issued, Mr Lyon has advanced many arguments coinciding surprisingly with the inspiring motives which evidently impelled Mr Whipple to the development of his own invention, nearly twenty years ago. Being thoroughly appreciative of the advantage of referring to so high an authority, in confirmation of my own impressions as to the proper definition of Mr Whipple's actuating motives, I have, with the express permission of Mr Lyon, quoted several explanations of his altogether excellent theories. I am under numerous obligations for the favors thus received, as they have enabled me to furnish a clearer expression of my own ideas concerning the convictions of Mr Whipple, and, through Mr Lyon's concisely couched sentences, I have been able to express what would otherwise have been attended by more or less doubt on my own part concerning their correctness and general practicability

In this connection I am heartily glad to pay tribute to the genius of Mr Lyon and the inestimable value of the invention he has perfected, which is a monument to the genius of the man and to

his philanthropic motives Mr Lyon is favored in the existing condition of popular opinion which, instead of discouraging each successive effort on the part of educators and benefactors in general, is inclined to welcome each addition to the methods and adjuncts available in the oral education of the deaf. I am glad to believe that no such adverse circumstances will delay the recognition of Mr Lyon's valuable system as has been the case with that of Mr Whipple, and that his well-earned laurels will be bestowed during his lifetime instead of being withheld for years after his death.

As has been stated elsewhere, the absence of any direct testimony from the pen of Mr Whipple has imposed an additional difficulty in the matter of compiling a correct and commensurate synopsis of his theories. This lack of a means of direct reference to an unimpeachable authority will be universally deplored, and in consequence all conjecture can only approximate the underlying motives which were so richly productive of good to the cause of the deaf.

The preparation of this paper has been greatly aided by the hearty co-operation and deep interest displayed by the father of the late Mr Whipple, who is still living at the ripe old age of full threescore years and ten. Through his kindness, many interesting details have been rendered available, and numerous facts are included herein which add incalculably to the completeness of the particulars for the first time presented as a whole. From this source also have been derived many interesting facts touching upon Mr W. C. Whipple's theories and educational methods.

To Mr Jonathan Whipple, therefore, I feel immeasurably indebted for a large proportion of the completeness of reliable detail I have been able to present, and I desire to make acknowledgment of the infinite credit due him in this connection. His life has indeed been one of numerous disappointments and of discouraging reverses, throughout which he has maintained an unfaltering trust and a most abiding faith in the eventual recognition of the subject of Articulation teaching itself, and an incidental appreciation of the true value of the labors of his gifted son. It is a matter of sincere congratulation that he has lived to witness this era of interested research. His life has extended over a period which has witnessed the gradual removal of the deep-seated prejudice in the minds of people generally against the possibility of teaching the deaf to speak. In his youth the mere suggestion of such an undertaking was scouted at as something that partook of the supernatural—the

same old story of a prejudice founded upon nothing more logical than the departure from traditional custom. The minds of people generally were so firmly established in the mistaken belief that the sign language was pre-ordained as the sole means of educating and communicating with the deaf, and they had grown so accustomed to moving in this fixed groove of belief that they dreaded the jolting which would accompany a transition to a new and unfamiliar road of opinion.

The later years of Mr. Whipple *père* have witnessed an entire disappearance of this narrow conservatism, a change as complete as it is enduring, and a transformation that from first to last he has believed inevitable, its fulfillment being only a question of time. All honor then to this hale old pioneer, who has weathered countless storms of adversity only to emerge in the broad, clear light of the present day of enlightenment with an undimmed intellect and an unshaken faith in what is, with him, the belief of a lifetime.

To the wife and the daughter of the late Mr. Z. C. Whipple I am also indebted for some very interesting material which has also contributed greatly to the completeness of this article, and to them I make grateful acknowledgement of the confidence and interest they have displayed.

To the performance of this pleasant duty has been added an augmented sense of gratification owing to the unstinted encouragement received on every hand. Not the least among these are the courteous favors advanced on the part of the officers of the American Association to Promote the Teaching of Speech to the Deaf, under whose auspices this circular is issued. Through their supplemental efforts, many uncertainties have been removed and a confidence inspired which has aided greatly in whatever success has been achieved.

It goes without saying that the dual motives which have actuated and inspired the present historian from the start—the privilege of placing a laurel wreath upon the memory of a deceased benefactor, and an incidental means of advancing a cause of vital personal interest, the promotion of the afflicted class to which the writer belongs—have been aided and sustained by this invariable encouragement which is freely acknowledged and correspondingly appreciated. A courage and freedom of expression has resulted which has permitted a far more satisfactory accomplishment of a task undertaken in great uncertainty as to its ultimate success.

ZERAH C. WHIPPLE.

History in its true sense is just beginning to be written. The process of human events is being made the subject of more extended and careful research, and the reforms, which have brought about an improved and advanced status, are being traced to their origin in order to determine the favoring circumstances and ulterior conditions which may be utilized for, and concentrated upon, a future period of continued advancement and progress.

We are studying "The various conditions under which men and women have from age to age sought for their happiness," not necessarily that which concerns themselves alone, but the unselfish, philanthropic motive which extends and shares its blessings with those who are unfortunate or afflicted, and thus gives the purest sense of contentment both with self and fellow men.

"The history of man's happiness, directly or indirectly, is the sole reasonable subject of all history whatsoever." In no instance is this better exemplified than in the case of the present careful inquiry, which is designed to furnish a complete and authentic record of the separate and united efforts tending to the development of the most practical methods of teaching articulation to the deaf.

Through this systematic research have already been developed astonishingly convincing proofs of the possibilities hitherto achieved and hereafter to be accomplished in the matter of the education of the deaf to speak and read the lips. A period in the history of the early efforts in this direction has been, for a variety of reasons, hitherto obscure and indefinite. The province of this article is to discuss in detail this comparatively unknown topic—The Whipple System and Natural Alphabet, the invention of the late Mr. Zerah C. Whipple, of Mystic River, Conn.

So little is known of either the originator or the influencing circumstances which led to the establishment of the system and its subsequent development, that a history of both the method and its gifted inventor is not only a matter of historical interest, but is

altogether timely as well, in the present stage of newly awakened interest and inquiry.

Two generations ago an Acadian village existed in a remote corner of Connecticut, where dwelt a little band of peace-loving, God-fearing, conscientious Rogerine Quakers. Their habits were simple in the extreme, and their ideas limited to the scope of their religious belief. So far removed from the world were they, scarcely a murmur of its progress penetrated their seclusion. Its contaminations did not touch them, for they knew nothing of its crimes or evil influences, and it has even been jocosely said that among them you might hang your pocket-book to the bough of a tree and return to find it undisturbed.

Their primitive faith and simple contentment were enviable indeed, but naturally their intellectual forces were narrowed down to the limited plane of their daily existence, until the introduction of any progressive element or the advancement of an idea that was at all at variance with the traditions of their fathers would have met with the stolid indifference which is often unjustly attributed to ignorance while being really a genuine trait of most perfect innocence and loyal faith in the sufficiency of the beliefs handed down from preceding generations.

One of the leaders among this particular sect of Quakers was Jonathan Whipple, the grandfather of the inventor of the Natural Alphabet, who embodied in his sterling character to a very marked degree the prime tenets held by the community. The iron will and thorough consistency of his character rendered all the more pronounced his belief in the faith they upheld.

It will easily be seen, therefore, that no ulterior influence or advantage could possibly have aided him in the difficult task he undertook—the oral education of his youngest son, Enoch, who was congenitally deaf.

It is narrated that the father, who was in the habit of taking the child upon his knee and saying caressingly, "Papa's poor darling," one day accidentally noticed that the child watched his lips closely and even attempted to imitate their movements in the word "Papa." An idea thus suggested itself which he lost no time in experimenting upon, and eventually, in the most primitive manner, he laboriously but withal successfully taught his child to speak plainly and correctly, and to read the lips with astonishing accuracy.

A writer in 1871 describes him thus: "A poor man, with very limited education, occupied in cultivating a small, rocky farm

during the summer months, and in the winter time going from one neighborhood to another to butcher hogs, he was better known as honest old Jonathan Whipple, the hog skinner, than as the discoverer of a system of teaching the deaf to talk."

"There is not, in this country or in Europe, a man who more thoroughly understands the art of teaching this system. It was necessity and love of his own offspring that led him to the discovery."

His signal success with his son has rendered it a matter of anecdote in that region far and near of the wonderful feats of Enoch, who lived to a good old age, a monument to his father's skillful teaching and indefatigable perseverance. So good a talker was he, his affliction was not at first apparent in conversation, and strangers were often deceived by his quick perception. Many amusing stories are still related of his exploits, as he was regarded by these simple folk as a phenomenon, and no amount of argument in addition to this incontrovertible proof of its possibility could then convince them that his case could be duplicated.

They considered him endowed with supernatural powers, and the discussion of the matter inspired among them a feeling of awe. The elder Whipple, who longed to extend the benefit of his experience to others afflicted as his son, was thus handicapped from the start by this popular prejudice and disbelief.

The only occasion during that period on which any degree of public notice was attracted to the matter was the discussion of the subject as a new variety of phenomena, by a number of scientists in session at Hartford. The lad was taken before them by his father, and the subject was critically considered from a purely scientific standpoint, but no practical result followed.

One of the learned Solons became so much interested, however, that he offered Enoch a scholarship at Harvard, which was declined alike by father and son, true to their ideas of simplicity and in strict adherence to their Quaker principles. This occurred early in the forties, and for some years following, nothing further was done toward accomplishing their desideratum.

Another son, Jonathan Whipple, Jr., had been a thoughtful and interested witness of his father's methods with his younger brother, and as he grew older there developed in his own mind the same desire which had so long imbued his father—that of extending to others similarly afflicted the same opportunities of amelioration which had proved so efficacious in his brother's case.

He determined to adopt as his aim the advancement of the afflicted class to which his brother belonged, and at once began to devise some means of attracting favorable attention to the cause in which his profoundest sympathies were enlisted.

Accordingly, at the age of twenty-two, he made his first effort to overcome popular prejudice by a demonstration in public of his brother's case, and the practical results which his father's system had accomplished. He visited various cities with his brother, and together they delivered an address on the subject of articulation teaching and the benefits to be derived therefrom, which was literally illustrated by the self-evident facts.

It was their custom to begin with a lecture repeated by Enoch, followed by an explanation by Jonathan who also tested his brother's proficiency in lip-reading and comprehension of language, to the entire satisfaction of the skeptical among the audience. The two brothers were kindly received and attentively listened to, but beyond the natural curiosity excited, no practical good resulted, as the people were as yet both unprepared and unwilling to accept so radical a change in the theories held for generations.

The venture was not even a financial success, and somewhat crestfallen they returned to the seclusion of their country home to await a more propitious season of public sentiment. A period of some twenty years now elapsed during which no progress was made, although their faith was still firm and their confidence quite unshaken. It was a continual source of grief to them that the power of doing good was withheld, even though they were ever willing instruments of accomplishing some alleviation in the condition of the deaf, had circumstances or opportunity rendered it possible.

During this last period of enforced inactivity, a third generation of Whipples had grown to early maturity, the brightest figure among them being Zerah C., the son of Jonathan Whipple, Jr., and the grandson of the pioneer in the cause which all had espoused.

Zerah Colburn Whipple was born in Ledyard, Conn., Sept. 13th, 1849.

From earliest childhood he manifested precocious traits which marked him as the possessor of more than ordinary mental ability. In view of his subsequent career, it seems that the convictions and aspirations of his father and grandfather had been concentrated and perpetuated in his own mental strength.

The germ of their idea had developed during all these years of dormancy, and from the chrysalis was to emerge a creation which, in simple beauty of design and perfection in form, outline, and detail far exceeded the fondest dreams of those who had hoped and struggled heroically through so many years of adverse circumstance and discouraging sentiment. And yet his career was destined to be as brief as that of a radiant meteor, appearing on the horizon unheralded and unknown. The brilliant light of his intellect shone full and fearless with resplendent effulgence, making itself irresistibly felt by the very purity of its lustre, until at its zenith, when it seemed most divergent, and its rays were most effective, it was suddenly and grievously eclipsed.

Zerah Whipple was consecrated from childhood to the principles and motives so firmly upheld by his family. His broad intellect, instead of rendering more liberal his views, served to strengthen the convictions so deeply inculcated. One of the prime tenets of Rogerine Quakers was the doctrine of Universal Peace.

A "grove meeting" was held annually which was always the occasion of a large gathering, and it was thus that the first opportunity presented itself for the beginning of a useful public career.

While yet very young he made addresses on various reform subjects, such as Peace, Temperance, and the like, and possessing a commanding presence, a penetrating voice, and an eloquent force of expression, he commanded close attention and exerted no little influence for one so young. His efforts in this direction culminated in the publication of a monthly magazine called "The Voice of Peace," an undertaking begun at the earnest solicitation of the Peace Society. The various members of the family assisted in performing the duties thus assumed. Zerah was installed as Editor-in-chief, and although he had never known an hour's service in a printing office and was still more inexperienced in the matter of editorial management, the periodical was a perfect success from the first, and soon attracted the most favorable comment from even the foreign exchanges. The publication of the magazine was continued until the increasing cares of the school crowded it out.

The interest felt by the family in the cause of the deaf at no period took even temporarily a secondary position among their aims and aspirations; and in the mind of Zerah Whipple, at least, the idea was assiduously cultivated, although as yet no opportunity had rendered decisive action possible.

That he was a man of purpose was early and decidedly manifested. He possessed an indomitable will and was unswerving from a determined course. As a man, an old neighbor has said of him, "If there was a pool of water in the road he would drive straight through it in preference to going around it. If a pile of stone obstructed his path he climbed over it for the same reason, no matter the damage to his shoe leather."

In his religious beliefs he pursued the same steadfastness of purpose. He was thoroughly consistent in his views and his actions; he lived up to all his principles, which were always his convictions as well. It can almost be said of him that he was an extremist in the extent to which he made his habits conform to his beliefs, and at one time this caused him serious difficulty.

He had long declared his views in reference to the military tax, claiming that it was for the sole purpose of the maintenance of the militia, and as a Quaker, a non-resistant and an advocate of Peace, it was in direct violation of his doctrine and even contrary to the teachings of Jesus.

Accordingly, after reaching the age of twenty-one, he refused to recognize the levy and asked to be exempted, giving in detail the reasons for his views. This was refused him and he was imprisoned for contempt and non-payment, until an influential friend heard of his predicament and at once paid his fine, thereby effecting his release. His friends would willingly have paid that portion of the tax, thus relieving him from the embarrassment, but he requested them to desist, and his imprisonment followed.

A year previous to this incident a leading paper contained a detailed account of the case of Enoch Whipple, also expressing the desire of the family to obtain other pupils for similar education. This time the effort was unexpectedly successful. The article was widely copied, and through this medium one pupil was obtained. Eventually others were secured until it seemed that what had been a Utopian dream was at last to be realized.

Before he was twenty years old, therefore, Mr. Zerah Whipple was regularly engaged in his chosen calling: that of teaching the deaf to speak as his uncle had been taught.

Assisted by his father and grandfather he met with fairly satisfactory results, but still he felt the unmistakable lack of a practical system, and, although pressing resolutely forward, he realized perfectly that he was retarded by this absence of a systematic plan.

He felt that his pupils should have something to study so that the whole dependence should not be placed upon one pair of lips. Even with but one pupil, such endless talking was required that it was a severe and well-nigh unbearable strain upon the endurance of the instructor, while in the case of several pupils, in order to give each one the needful attention, too great an expense in the requirement of additional teachers would be incurred.

Thus he argued in an entirely matter-of-fact fashion, until an improvement of existing affairs seemed a practical necessity. The idea grew upon him, and he studied night and day in a vain endeavor to solve this new and perplexing problem. It baffled every effort at solution for a matter of two or three years, and he was almost in despair when the plan of undertaking a course of instruction at the State Normal School suggested itself. He hoped that a study of the methods and principles of teaching might tend toward systematizing the chaotic mass of ideas that bewildered his brain and might also assist him in devising the simplest possible means of reaching the mind of his pupils quickly and comprehensively.

In his habitually impetuous manner, to aim meant to do, and leaving his little school in the hands of other members of his family, he was soon enrolled as a student. This step speedily proved to have been well taken. Relieved for the nonce from the harassing cares of business and the increasing responsibilities of the school and those under his charge, his ideas thus unrestricted at once took definite shape, and adjusted themselves comprehensively and without apparent effort to the solution of the difficult problems upon which he had hitherto labored in vain.

The climax was reached during a wakeful night, and the earliest dawn found him at the Principal's door, with the abrupt announcement on his lips that he must start homeward at once, as he had at last conceived an idea which he was anxious to experiment upon and perfect. He lost no time in explanations, being too much engrossed to perceive the peculiarity of his own actions. He shouldered his trunk and marched off to the station, reaching it in time to board the earliest train which could bear him back to the home he had so recently left.

His abrupt and excited appearance astonished and alarmed his family, but he soon convinced them of his sanity, and at once began the development of the idea so suddenly and unexpectedly suggested. After hours of patient study, during which he sat

confronting a mirror, with a slate at his elbow upon which to note every position assumed by the organs of speech visible on the glass before him, the matter at length took definite and practical form.

The Fata Morgana of his imagination had at last materialized into something more substantial than "the stuff that dreams are made of," and as a result of his concentrated efforts, the "Natural Alphabet" was added to the list of useful adjuncts which are most invaluable factors in providing greater possibilities attainable in the instruction of the deaf than the wildest imagination had then even conceived.

Mr. Whipple's first experiment with his oldest and original pupil more than realized his most sanguine hopes. He reported his success in great excitement, exclaiming, "He can read it fully as well as he can the lips, and I think he can even better, as the Alphabet will stay where you put it, while the words on the lips vanish as quickly as spoken."

This is a simply expressed definition of the germ of the idea, which has been otherwise interpreted thus: "By means of this hieroglyphic alphabet which shows the position of the mouth in articulating each of the elementary sounds, the pupil with his own mouth is able to reproduce the position, and then by using the voice articulates the sound of the word represented."

As time passed on, Mr. Whipple profited by experience and observation until the invention had attained a degree of perfection that could scarcely be improved upon. He was often seen lying on his back, mirror in hand, out in the broad sunshine, peering into his mouth in the endeavor to simplify still further the idea he was endeavoring to convey—a full and definite conception of the outward construction and visible appearance of each separate sound.

The perfection of his invention virtually removed the last barrier from his path, and henceforward his progress was unrestricted, and his career as an educator one of signal success. His heart and soul were *en rapport* with his work, and as he witnessed the transition from the gloom and isolation of unbroken silence to the awakening inspirations stimulated by newly acquired speech, in which the result of his own genius proved so important a factor, he was vouchsafed a measure of gratification and a fullness of reward experienced by few indeed.

A new era in the history of this singularly united family now began. In 1874 the old farm, several miles inland, that had been so long the scene of their unavailing efforts, was exchanged for a beau-

tiful estate situated at an accessible distance from the village of Mystic River, and something more than a mile from the railway station at Mystic Bridge. The country-seat of a wealthy resident, who had not lived to occupy it after its completion, was purchased by the Whipple family, and amid truly inspiring surroundings, the great cause continued to flourish in a manner befitting the noble motives and endeavors it had incited.

The place commanded an enchanting prospect of valley and river, with that finishing touch of marine which always pleases and satisfies the eye. No landscape is complete without the sea, and an acme of perfection had been reached. Situated on a commanding elevation, an unrestricted and surpassingly beautiful view presented itself.

Below, the silver river wound its way placidly through the meadows and marshes, and at the base of a series of rocky cliffs that rose defiantly and abruptly from the otherwise level valley, until the clustering village was reached. Here busy shipyards sought to retard its progress, but it passed onward still until it met and lost itself in the broad blue of Long Island Sound.

Across the Sound the long, dim outline of Long Island was plainly discernible, and further to the east lay Fisher's Island, while beyond and between the broad Atlantic was ever and always the satisfying perspective of this fairest of scenes. The broad verandahs which extended across the length of the house afforded ample opportunity for contemplating this always interesting and extensive view, and it was among these delightful environments that the patriarch of the family, Jonathan Whipple, Sr., passed quietly to his long rest at the age of full fourscore years. He had lived to realize the fullest fruition of his hopes, and had seen his beloved grandson, the confidant of all his cherished plans for the amelioration of the deaf, promisingly launched upon a brilliant and useful career.

"The Mansion," as it was called, became the scene of action of a happy little band of pupils, who enjoyed to the utmost the healthful surroundings, growing hale and vigorous from their out-door life among the groves of oaks and junipers which formed part of the property. At the same time they gained knowledge with marvelous rapidity, each day being one long object lesson from which every suggestion of a "sign" was rigidly excluded. Mr. Whipple was violently opposed to the use of signs, and also held that the custom of interpolating signs in the Manual Alphabet as a substitute for spelled words was a pernicious practice. He

believed that it dwarfed the powers of expression and limited the knowledge of mutes who learned to rely upon them, and he was convinced also that it presented additional difficulty when subsequent instruction in articulation was undertaken. He was outspoken and emphatic in his condemnation, and advocated the requirement of an expression by the spelling of words alone.

The pupils of Mr. Whipple were not allowed to use signs after the first few days, for as early as possible, they were taught to express verbally their wishes and thoughts. At the table, the names of the articles of food were explained so that they were able to ask for the more common dishes, as butter, bread, milk, potatoes, etc., and very soon they could ask for each of these in a complete sentence, "Please give me some bread." The names of objects in daily contact were first taught, and thereafter sentences concerning them were mastered as rapidly as the ability of the child would admit, until a more advanced stage in instruction was reached.

The pupils varied in number from five or six to thirteen or fourteen, while their ages varied from five and six up to even thirty, the average being about eight years.

With the older class of pupils Mr. Whipple's mode of teaching proved a wonderful success. The ease and rapidity with which the several graduates of Sign Institutions, who were at various times under his instruction, were able to master the elementary principles and to acquire subsequently an extensive vocabulary is the more worthy of note in view of the fact of the present impression that they are the most difficult class of pupils to instruct in articulation. The perceptive powers of the deaf are in some cases extraordinarily developed, and in all instances greatly in excess of those of the average hearing person, while their imitative ability is distinctively marked. The knowledge of written words which had been acquired incidentally with the sign language (in the case of the older pupils) seemed to aid rather than to retard their progress, and the course of study pursued gave them simultaneously an idea of the visible construction of each separate sound, as portrayed by the Natural Alphabet symbols, and a definite comprehension of the outward appearance which was an invaluable aid in the acquisition of lip-reading. A direct association was conveyed both to the mind and the eye between the outward appearance and the process of forming in the mouth and speaking each word, so that speech-reading naturally and easily accompanied the art of articulation itself.

In the case of younger pupils, a corresponding degree of success was achieved. Their ambition was soon aroused by the mere fact of their individual progress, and on one occasion a contest resulted to determine to whom among them should belong the honor of having mastered the greatest number of words in a given length of time. This was not a preconceived plan of the teacher's, but it developed a fact that had not been apparent. One pupil, a bright boy of nine years, had learned to speak and identify some three hundred words in the six months during which he had received instruction. Each one of these words he expressed correctly in the symbols of the Natural Alphabet, reproducing the action of his own mouth, thus demonstrating the accuracy of his idea of their pronunciation; and he was able to articulate them clearly and intelligibly as well. This was true of various other pupils to an extent less remarkable as to the number of words, but none the less surprising as to the degree of aptitude displayed.

The methods and theories entering into the instruction of Mr. Whipple's pupils receive a more extended analysis in a different section of this article and the subject has been incidentally included in his personal history simply to evidence the stimulus given him during the earlier stages of his experience with his device, which early demonstrated its practical utility and meritorious features.

Naturally, more or less attention was directed to the matter which had now become a subject of much local pride. It was a bold move for a Rogerine Quaker, who had never allowed himself to become a voter, to ask aid from the State, but formal recognition was eventually given the school by the Connecticut Legislature, and an appropriation for indigent students receiving instruction was granted. Later the same benefits were extended as were received by the American Asylum at Hartford, and thus the Whipple Home School was placed upon a substantial financial basis.

New Jersey afterward became especially interested on account of the remarkable results achieved in the cases of several private pupils who had received Mr. Whipple's instruction, and this interest culminated in the offer of an endowment as an inducement for the removal of the school to that state. An Institution would have been founded and liberally endowed, with Mr. Whipple at its head, could he have been induced to consider such a proposal. With characteristic firmness, however, he refused to entertain the idea of expatriating himself and his Institution from his native State. He was determined to succeed upon the same spot which had been the

scene of his early struggles and discouragements, and no consideration availed against this avowed purpose. New Jersey, however, continued to furnish him numerous pupils, some of whom were State beneficiaries. The greater portion of his pupils, indeed, were from a distance, and every section of the country was at various times represented.

During the years from 1872 to 1879, the success of the school was unvarying, and the circle of its influence constantly widening, until it seemed destined to occupy a prominent position among the Articulation schools of the country, both as to size and importance, and results achieved.

Mr. Whipple's efforts never knew even temporary relaxation. He studied constantly, and continually endeavored to devise some plan of simplifying still further in expression the principles he sought to instill. His labors in other directions were equally untiring. He frequently lectured on the various reforms sought for by his sect; he wrote fluently upon these subjects, and his facile pen was constantly employed in behalf of his religious principles and beliefs. He was considered a leader among his less brilliant but equally devout colleagues, and many of their meetings were held at his home. He exercised a vast influence over all with whom he came in contact, and his earnestness and ready sympathy encouraged many to seek his advice. His counsel was often the exerting influence which resulted in a purer and more upright existence. At the time of his incarceration in the prison, he befriended all his fellow-prisoners, read and prayed with them daily, and upon his release he furnished all with his address, requesting them to come to him when they were liberated, promising at least a temporary shelter until they obtained honest employment, if he was not able to provide it for them himself. This compact was mutually kept in several instances, and doubtless it was the means of reclaiming more than one from a continued career of crime.

Among the advocates of Peace he was also a recognized leader, and it was during his attendance upon one of their meetings held in Dutchess County, N. Y., in August, 1879, that he was stricken with his last illness. The attack was very sudden, but he was able to reach home and for a time he seemed to benefit by the change. He was confronted, however, by the cares of a newly-opened school year, that imposed an additional drain upon his vitality, far greater than he was able then to endure, and he again became alarmingly ill. He sank steadily, and the long and severe strain to which

his nervous system had been subjected told upon him disastrously, and deprived him of the ability to rally from what seemed at first an attack of no serious consequence.

One of his last acts was to place upon a blackboard some exercises for the pupils in the symbols he had labored so earnestly to perfect, and he sent the lesson down to the schoolroom with the message to teachers and scholars that he hoped to be with them soon again. That this was a vain hope soon became too sadly apparent, and this last lesson remained as he had placed it throughout the entire school year, a silent witness of the efforts of a benefactor, faithful to his trust even to the end.

The last days were of unclouded consciousness, and his happy, cheerful disposition was evidenced to the last; even after losing the power of speech he made a feeble effort to sing. Death came to him on a quiet Sabbath, September 14th, 1879. With a last loving look toward the dear ones bending over him, his eyes quietly closed and his noble, humane heart was still. Young, gifted, at the zenith of his mental powers, animated only by intensely utilitarian motives and distinctly practical views concerning their accomplishment, rich in the fruition of his hopes, and confronted by an alluring future whose vistas unfolded vast possibilities of the continued accomplishment of good, he laid down the burden of his existence with scarcely a sigh. He passed serenely and triumphantly out into the Great Unknown, and as quietly and peacefully entered into the Eternal Rest as if soothed by the consciousness that even his brief life of barely thirty years had been richly productive of more service to his fellow men than many an existence prolonged to the utmost limit.

His death fell like a stupefying blow, the void being so great and so impossible to fill. He had been the center about which all rotated, and it seemed that the removal of this central pivot destroyed the centripetal force and scattered the fragments in every direction, so that it was impossible again to restore them to their former cycle of usefulness.

As time passed on, a greater realization was everywhere evident of the irreparable loss that had been sustained, not only by the particular class whose condition he had labored to improve, but by the cause of humanity at large.

Many were the eloquent tributes paid his memory, and not the least expressive were the grateful testimonials that came from hearts overflowing with a full sense of the loving helpfulness they had

lost. Great and humble alike were quick to realize that a loyal and sympathizing friend, a Good Samaritan and a universal benefactor had departed. The sphere of Mr. Whipple's usefulness had been of so wide a scope, and his influence so exceptionally purifying wherever it was exerted, that the term Christlike was used more than once as thoroughly expressive of his character and the unselfish benevolence which distinguished his every act. His mission had been so quietly and unostentatiously performed that it was not fully appreciated until the sharp sense of loss manifested the extent to which his humanitarian influences had been felt.

Mr. Whipple's personal magnetism was an important element which inspired the trust of many who came to him in trouble. In appearance he was slightly above the medium height, with a powerful physique and a sinewy form which was characteristic of his race. He was quick and nervous in action, and, like all teachers of articulation, possessed a wonderfully expressive face. His mouth was large and particularly adapted to the requirements of his work with the deaf, his pronunciation being very slow and distinct. Neither he nor any of the male members of his family ever permitted the vestige of a beard upon their faces, as they believed that it would interfere more or less in their demonstrations, and in teaching lip-reading. Notwithstanding the manifold cares and responsibilities he had assumed so early in life, his face was remarkably youthful, and even boyish. With the young, naturally, he was able to inspire a sense of comradeship which enabled him to wield a much stronger influence than would in some cases have been possible, while with the deaf his mere presence seemed to exert a potent charm which stimulated his pupils to renewed efforts in order to win his approbation and the unstinted encouragement which was rarely, if ever, withheld.

As the family slowly rallied from the crushing force of the bereavement, they mechanically performed their accustomed duties, and for a time the school was preserved intact by the widow and the father of Mr. Whipple, but their guiding star had set, and it was never again the same. During the immediately succeeding years a series of events resulted in a complete change of *régime*. The ranks of the family were decimated by death until to Mr. Whipple's parents only one child remained, and at length when this daughter removed to the Pacific coast, crushed in spirit by their grievous afflictions and numerous bereavements, they subsequently followed her, and still reside in the far west.

The widow of Mr. Whipple and her only child, a daughter now grown to womanhood, also left the vicinity, and thus it happened that the lapse of a very few years following the death of the Principal witnessed changes so complete that not a vestige remained of those who had been the prime factors in establishing and conducting the school.

It still exists, but has passed into other and still worthy hands. It cannot be truthfully said to have met with such brilliant success of late years, but this is largely attributable to the fact of the constantly increasing attention being given the subject of articulation teaching in schools throughout the country.

The extent to which Mr. Whipple's labors have left their impress upon the progress and development of articulation remains yet to be developed. The fact alone of the absence of organized inquiry into the matter has been responsible for its continued obscurity and the lack of appreciation hitherto accorded Mr. Whipple. Only recently has the subject attained recognized prominence, and the justice so long withheld seems about to be tardily, but none the less unreservedly, bestowed.

His endeavors were as far-reaching in their benefits as in their aims, if adequately comprehended, and a coming generation of unfortunates may yet rise up and call him blessed as heartily as do those who were direct beneficiaries of his achievements as a student, an educator, and a philanthropist.

Within the brief space of his eventful life was included a multiplicity of labor and a variety of accomplishment that would ordinarily require the full course of a lifetime to effect. The vitality of the man was exhausted at that early stage of his existence by the very fact of the magnitude of his aspirations, the swiftness of their approximate realization, and their far-reaching results.

In the pages which follow, devoted to a more extended discussion of the nature of his theories and their application, there are doubtless many facts open to the most liberal discussion, as well as numerous discrepancies which were altogether unavoidable in view of the fact that a careful search has thus far failed to reveal a written synopsis from the pen of Mr. Whipple explaining in detail the "Natural Alphabet" and its rudimentary principles. Only very meagre details expressing his views and his methods are available, in addition to the personal experience from which most of the facts herein have been deduced, and in the manner of explaining the symbols adequately, many difficulties have been experienced. The

inventor alone could treat this subject with adequate justice, and it is true of this system as of many others that an individual demonstration is much more satisfactory and comprehensive than a written analysis which is necessarily vague to a greater or less degree.

Although Mr. Whipple frequently delivered addresses setting forth in detail his methods and theories of practice, he was notably reticent when it came to committing his ideas to paper, and unfortunately for posterity, his utterances were not preserved. Many conjectures have been made regarding this almost unaccountable reserve, but that it was premeditated all are loth to believe.

In his own case, he was content in the all-abiding faith in his invention which enabled him to proceed steadfastly onward, wholly unmindful of prejudice or opposition, and he seemed satisfied to accomplish all the good which lay within his own province without making a single effort to place it within the hands of others as a like instrument of usefulness in promoting the welfare of the deaf.

Possibly he did not fully realize the importance of disseminating the facts of his discoveries, or he failed to comprehend the full value of their possible influence upon the efforts of others tending in the same direction. Again, he may have believed that through its merits alone his invention would eventually demonstrate its claims upon public notice. He had encountered such bitter and unreasoning opposition at every step in his early advancement that he had learned to do without public sanction and the measure of appreciative encouragement so grateful to all who have labored long and suffered much to obtain the goal of their ambition, especially if their aspirations result in the betterment of others who yet withhold applause and appreciation.

By far the most reasonable conjecture, however, that can be made of the true reason which actuated Mr. Whipple in his established reserve, is the fact of his sudden and untimely demise which occurred almost before he was thoroughly convinced of the utility and practical adaptability of his principles, particularly when administered by others. In the absence of precedent, he had no conclusive proof that it would be comprehended by those who had not the personal interest which inspired every effort on his own part to utilize his invention in a manner calculated to effect the most thorough understanding on the part of his pupils.

In the broader field of discussion, the association of other educators would have resulted in a more extended personal acquaintance and an awakened interest would have accorded him

the recognition among his co-laborers so justly his due, and would have extended as well the benefits of his researches and discoveries to a much wider scope. He seemed restrained by his natural, Quaker-like simplicity from obtruding either himself or his system, and the course of investigation and discussion not having at that period assumed the form of organized movement which so happily characterizes it to-day, no other alternative remained than a continued isolation and obscurity.

To the innate modesty of the man must be ascribed in a great measure whatever may be lacking in the information which this circular was designed to furnish.

The simple story of the life of this quiet, unpretending Quaker, whose modest, unassuming existence was so richly prolific in benefits to humanity, cannot fail to arouse an answering chord of sympathy in those who have battled persistently through the vicissitudes of adversity and contrariety of opinion. In the course of a clearer and better understanding of the character and gifts of the man, the value and extent of his researches, and the importance of his achievements, an added regret is inevitable that to the present generation of educators of the deaf is denied even a personal expression which would exert so inspiring an influence.

The exhaustive study given the subject of articulation by Mr. Whipple would be of incalculable value could it be fully understood and discussed, and in his loss was extinguished a beacon light marking a most useful period in the progress of the first movements advancing the condition of the deaf.

Unsatisfactory and inadequate as are the details which remain, they are sufficiently indicative of his mental strength and wide humanity of purpose to ensure a bestowal of the recognition which is a matter of simple justice. Most deplorable indeed would be the ingratitude and inattention through which the record of so noble a life could be utterly and for all time forgot.



Physiological Key to the characters of the "Natural Alphabet." Organs of speech considered: a-b, the lips; c-d, the teeth; e, the tongue; f, the palate; g, the nasal passage.

NOTE.—The groupings which follow are simply systematized in order to facilitate this synopsis. Mr. Whipple recognized no given procedure in teaching the symbols, and the lettering of the physiological chart, the introduction of the arbitrary signs conveying the pronunciation of alphabetical sounds, and the explanation of the symbols as herein included, in no way whatever entered into the instruction of the pupils themselves.

WHIPPLE'S NATURAL ALPHABET.

VOWEL SOUNDS	CONSONANT SOUNDS.	COMBINATIONS
FIG. 1.	FIG. 14.	FIG. 29.
FIG. 2.	FIG. 15.	FIG. 30.
FIG. 3.	FIG. 16.	FIG. 31.
FIG. 4.	FIG. 17.	FIG. 32.
FIG. 5.	FIG. 18.	FIG. 33.
FIG. 6.	FIG. 19.	FIG. 34.
FIG. 7.	FIG. 20.	FIG. 35.
FIG. 8.	FIG. 21.	FIG. 36.
FIG. 9.	FIG. 22.	FIG. 37.
FIG. 10.	FIG. 23.	FIG. 38.
FIG. 11.	FIG. 24.	FIG. 39.
FIG. 12.	FIG. 25.	FIG. 40.
FIG. 13.	FIG. 26.	FIG. 41.
	FIG. 27.	FIG. 42.
	FIG. 28.	FIG. 43.
		FIG. 44.



THE VOWEL SOUNDS.

Each of these representations is a picture in miniature of the shape of the openings made by the lips in pronouncing the sounds, or rather they are intended to depict the shape of the aperture, as seen from a point directly in front. The first five characters are those of the sounds in which the tongue is visible, and assists in forming the position.

[The Key to the following explanations will be found in the physiological chart, at page 24. By comparing the symbols with the corresponding organs, as indicated by the letters, the resemblance will at once be apparent and the principle readily understood.]



Fig. 1.

Fig. 1, representing the sound of *a* as in *ate*, *c* is the straight edge of the upper teeth (the upper lip being held parallel to the teeth), *e*, the point of the tongue against the edge of the upper teeth, and *b*, the curve of the lower lip. It is also conveyed to the mind thus in order to explain that the first sound is the  Fig. 8, that of *e* in *end*, and the second  Fig. 3, that of *i* in *it*.

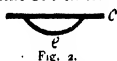

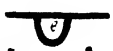

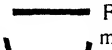
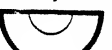


Fig. 2.

Fig. 2 and Fig. 3 are respectively the sounds of *a* and *i*; *c* the position of the upper teeth, and *e* the tongue position, the shape of the latter being the distinguishing point of variance. The shape of the point of the tongue in Fig. 2 is long and narrow, and the sound of *a* is in direct relation, while in Fig. 3 the opening is smaller and the sound correspondingly incisive. Witness the length of the sound of  in *eve*, and of  in *it*.

well known, and hence the  are combined Fig. 3 are there-  Fig. 7 and

enter Fig. 4. *c*, the edge of the upper teeth, *e*, the tip of the tongue, *b* the curved lower lip, the space between *e* and *b* conveying the idea of a wider  Fig. 5, the sound of *u* in *mute*, consisting of the two symbols representing *ee* and *oo* (or *you*), shown

1 Figs. 2 and 10, connected to convey the idea of continuous sound; c, the upper edge of the teeth and lips, e, the tongue point, and a-b the shape of the lips in forming the sound of oo.

The remaining vowel characters are formed by the lips alone, and are intended to convey the shape of the visible opening made by the lips.



Fig. 6.

Fig. 6 is the sound of *a* in *have*.

Fig. 7 that of *a* in *far*, and of *o* in *odd*, the different width of the space between the upper edge c and the lower lip, b, being the



Fig. 7.

visible difference between the two in lip-reading.

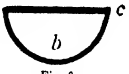


Fig. 8.

Fig. 8 is the sound of *e* in *end*. Fig. 9 is expressive of the movement in forming *o*, first the large circle and lastly the smaller and inner one being



Fig. 9.

shaped by the lips. The remaining sounds of *o* are

symbolized, Fig. 10, *o* in *prove*, *o* in *woman*, or *u* in *put*, and as in *form*, the latter being



Fig. 10.



Fig. 11.

Fig. 11,

are severally the shapes of the openings made by the lips. The reason attaches to Mr. Whipple's theory is nowhere exemplified than in the two symbols of *o* and *u* he invariably imparted the first ideas of connection between the lips and the symbols. The shape of the former symbol and the oblong form of the latter are directly analogous to the position of the lips, and form the keynote to the entire alphabet. As they were the simplest sounds, they were the first to be impressed upon the scholar.

The last symbol of *o* in *done*, represents the straight edges of the upper and lower lips held parallel with the teeth, which

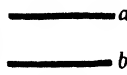
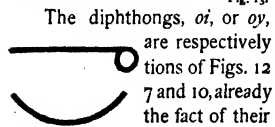
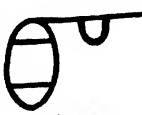


Fig. 13.

(Fig. 13), the sound of *u* in *us*, represents simply the straight and lower lips held parallel are invisible.



ou, or ow.



oi, or oy.

and *ou*, or *ow*, the combination of 3, and Figs. explained; and being directly

connected is intended to convey the idea of an uninterrupted utterance.

The representation of words in the symbols was made thoroughly expressive and descriptive of the separate or combined utterance of sounds. When one sound glided upon another they were depicted as one compound symbol, partaking of the chief elements of each component, while in the case of separate and distinct utterance the characters appeared in their elementary form.

THE CONSONANT SOUNDS.

In these representations the heavier lines denote vocalization, and the lighter shadings, together with the arrows, are intended to represent the expulsion of breath in the case of aspirates.

Fig. 14, *b*, and Fig. 15, *p*, from their direct resemblance to the closed lips as pictured upon the physiological chart are equally true of *s*, and Fig. 17, *z*, the shut position of the teeth in those letters being represented.

Fig. 16, *c*, and Fig. 18, *d*, show the upper teeth, upon the lower lip, (b,) the correct representation of the position as seen by the eye.

Fig. 19, *e*, Fig. 20, and *d*, the tongue, (e,) teeth, (c,) the round and full form. These symbols differ from

the next, *l*, Fig. 22, in the shape of the tip of the tongue. In *l*, the pointed shape, and the place of contact near the lower edge of the teeth resulting in an entirely different sound. *M*, Fig. 23, closed lips, (a and b,) with passage, (g,) to denote the nasal sound, (g,) shows the the nasal sound issuing through the nose. *N*, Fig. 24, the tongue (e) against the upper teeth, (c,) as in *t* and *d*, and the addition of the nasal sound, g, to distinguish it from those symbols—the three letters bearing the same outward appearance unless accented.

R has been called "that grand letter for the mutes, who are good as Frenchmen on it," and the symbol portraying its formation

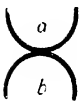


Fig. 14.

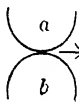


Fig. 15.

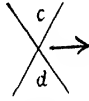


Fig. 16.



Fig. 17.

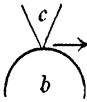


Fig. 18.



Fig. 19.



Fig. 20.

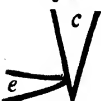


Fig. 22.



Fig. 21.

Fig. 21, represent against the upper tongue shape being sized, or elliptical in



Fig. 23.



Fig. 24.

s so clearly defined as to add to the facility of its expression. As shown in Fig. 25, the curved position of the tongue in the mouth is shown. It differs from the other symbols, and thus has an individuality of its own, being the more easily understood and identified. The characters represented by Figs. 26, 27 and 28, portray respectively the formation of *k* or *c*, hard *g*, and the aspirate *h*, which have so often been called "the superlatively difficult sounds." A verbal description of these symbols is very inadequate, a personal demonstration being almost absolutely necessary to secure a complete understanding. *K*, Fig. 26, and *g*, Fig. 27, were intended by Mr. Whipple to show the action of the palate, *f*, against the base of the tongue, *e*, thus producing the movement felt in the upper portion of the throat, directly beneath the chin. The tip of the tongue remains in the bottom of the mouth, with the inner end slightly raised so that it meets the palate in much the same way as the character depicts, while on the contrary, in Fig. 28, the aspirate *h*, the opening between the tongue and palate is wider, thus permitting the breath (shown by the arrow) to escape. Patient and drills in these difficult sounds alone can impress them upon the mind of the pupil, and in Mr. Whipple's school they were identified by feeling the sound, referred to as being perceptible in the upper throat.



Fig. 25.



Fig. 27.



Fig. 26.



Fig. 28.

COMBINATIONS.

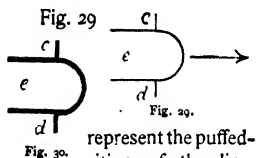


Fig. 30.

represent the puffed-situation of the lips, the opening made by them, the teeth, *c*-*d*, behind. The shape is descriptive of the

curve made by the lips, which move outward and away from the teeth. The two symbols immediately following, *cb*, Fig. 33, and *dzh*, *j*, or *g*, Fig. 34,

represents the aspirate *th*, and Fig. 30 the vocal sound of *th*. The tongue, *e*, is placed between the teeth, *c*-*d*. *Sb*, Fig. 31,



Fig. 31.

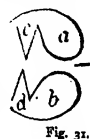


Fig. 32.

and *zh*, Fig. 32, out po-a-b, and disclosed-fluted

are exact-
of the
per teeth,
ally *tsb*
20 and 21,
d with



Fig. 34.

tly the same,
tongue, *e*,
as these two
and *dʒb*.
showing for-
Figs. 31 and

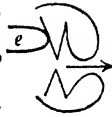


Fig. 33.

with the addition
against the 'up-
sounds are liter-
(Compare Figs.
mation of *t* and
32 just preceding.)

Cr, shown in Fig. 35,
are made up of the palate
in Figs. 26 and 27, and
Fig. 25,
ing the
two sounds
be classed
and their
Whipple during earlier instruction.

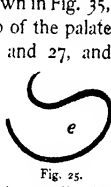


Fig. 25.



Fig. 35.

and *gr*, Fig. 36,
sound explained
the symbol *r*,
the curve show-



Fig. 36.

tongue's movement as the
glide upon each other. These also may
with the more incomprehensible sounds,
discussion was not attempted by Mr.

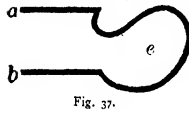


Fig. 37.

Fig. 37, *er*, shows the vowel sound (Fig. 13)
gliding upon that of *r* (Fig. 25), a-b, the lips,
and *e*, the curved position of the tongue.
This movement is otherwise shown in
tr (Fig. 38),

(Fig. 39),
of the curv-
directly
the upper
soft and



Fig. 39.

which con-
ature of the
after its con-
teeth, *c*.



Fig. 38.

and in *dr*
vey the idea
tongue, *e*,
tact with
X, in its

hard sounds, is denoted by Figs. 40 and 41.

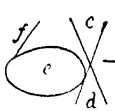


Fig. 40.

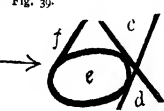


Fig. 41.

As the components of its articulation are respectively *ks* and *gʒ*,
the explanation of those separate
sounds shown in Figs. 26 and 16
and Figs. 27 and 17 are applicable

to this. The utterance of the combined sound can be made without
opening the teeth, *c-d*, and the throat sound made by the action of
the tongue, *e*, against the palate, *f*, glides smoothly upon the sound
of *s* or *ʒ*, made by the teeth, *c-d*.

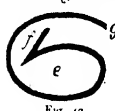


Fig. 42.

g, Fig. 42, is simply the addition of the nasal
sound, *g*, to the character shown by Fig. 27, the
sound of *k*,
in the throat, *f*, instead of being produced
issues from the nose.
The tongue, *e*, as hitherto explained,
rests in the mouth with its
against the palate, *f*, while the sound proceeds upward through the
nasal passage, *g*.



Fig. 43, depicting *wh*, differs from any other character, to illustrate the peculiar cheeks formed by the action of the tongue, after the action of the breath issuing from the mouth.



a purely aspirate sound, after, as it is intended to illustrate the inflated position of the cheeks, after the action of the breath issuing from the mouth.



Fig. 44.

Fig. 44, a picture of the combination of *kt* or *ct*, is designed to illustrate the movement of the tongue (*e*) directly to the teeth (*c*), after uttering the throat sound, *c* or *k* (shown at Fig. 26).

This completes the list of characters, and as far as can be ascertained no other detailed analysis has been made heretofore, explaining at length the elements considered in each symbol. Attention is again called to the fact that the groupings, lettering, and the introduction of pronunciation marks have been included simply to facilitate this description. Mr. Whipple made all his personal demonstrations by pointing out, through his own organs of speech, the connection between the symbols and the position they portrayed, and he placed his whole dependence upon the art of imitating what he designed as a picture of these various positions. Except to hearing people, he never explained in so many words the basis of his calculations, as he believed that constant usage would familiarize the pupils with the functions of the visible organs represented and that eventual comprehension was inevitable, while a minute explanation at the start would tend only to confusion in their minds.

METHODS AND THEORIES.

Of the underlying principles and actuating motives, the keynote was simplicity, the highest degree attainable in respect to details included, and still greater simplicity in the mode of imparting each principle of speech to the minds of the deaf. This standard Mr. Whipple struggled unceasingly to attain, on the theory that the multiplicity of facts confronting the beginner was sufficiently bewildering when including only the vocabulary of our involved language and its idioms.

Every vestige of technicality was removed from his system and his efforts were concentrated upon a single endeavor: that of reaching the minds of his pupils by the shortest, simplest and most practical route. It was this determination to present nothing but facts absolutely necessary to intelligent understanding, and which

could be clearly and definitely demonstrated, that so long prevented him from perfecting his embryotic ideas. *

He desired above all things to gain a perfect comprehension from his pupils, and in order to obtain this vantage point he devised the plan of illustrating simply but plainly the nature of the positions and movements visible in the formation of speech, embodying a practical conciseness which left little or nothing to perplex or confuse the mind of the learner in the course of more extended study.

He laid great stress upon the power of imitation on the part of the deaf, which in most cases is remarkably pronounced, and this also was considered while accomplishing what he wished to express for their benefit—a picture of the visible organs in the various positions assumed by them in the process of forming each sound, which could be imitated by the pupil, and thus a correct idea of the pronunciation easily imparted. The component parts of the Natural Alphabet were limited to the representation of the four organs of speech that are visible to the naked eye—the lips, teeth, tongue, and palate—with the addition of the nasal passage which is defined in the three symbols representing m, n, and ng.

Beyond these elements, nothing whatever was included in the construction of the symbols, and no other elements were considered in teaching the mechanism of speech. Most emphatically, it is the very simplicity of this system which is its chiefest claim to notice. The less involved the method of instruction from which a deaf person must derive information, the more readily he masters the rudiments of speech, and the more rapidly does he progress in articulation.

No time was consumed by Mr. Whipple in an explanation of the anatomy of the vocal organs, and with all the elements of the system in full view, both in the symbols and on the face of the teacher, thus giving a continual object lesson and the most direct connection between the pictured speech and the actual organs in operation, the understanding was comprehensive, and progress unrestricted from the start.

For a more extended and definite expression of the benefits Mr. Whipple hoped to extend through his invention, as well as the theories which led to its eventual perfection, I am glad to refer to so high an authority as Mr. Edmund Lyon, whose admirable discussion of his "Phonetic Manual" and its objects has suggested a much more definitely expressed interpretation of Mr. Whipple's

evidently corresponding belief than it would otherwise be possible to give. The two theories of these equally gifted inventors are so noticeably similar that the appropriateness of the application of Mr Lyon's admirably defined expression of his views to those apparently held by Mr. Whipple, is self evident.

Mr. Lyon has said of his Manual and its Principal Aims: "It provides a convenient and ever-present mode of representing words as spoken, and of giving to each sound a positive and invariable symbol, thus affording a certain stimulus to the memory of the deaf, and aiding them in their efforts at articulation.

One of the principal objects of this Manual is to provide a practical method of giving to the deaf a full and correct apprehension of words as they are spoken. Another object aimed at is the providing of convenient means whereby a satisfactory idea of the mechanical formation of speech sounds may be conveyed. From the very nature of speech and its production, a great deal of the mechanical formation of speech sounds is partly or wholly concealed. A convenient mode, therefore, of suggestively symbolizing these hidden actions will be found of great utility in giving to the deaf that clear and adequate conception of the manner of producing speech sounds, which must necessarily be the foundation of all intelligible and acceptable articulation. This Manual has, then, these two aims principally in view: first, the imparting of a practical and abiding knowledge of the exact combinations of phonetic elements used in spoken words; and secondly, the furnishing of a clear and accurate representation of the manner in which those elementary sounds are physiologically produced."

A noble philanthropy inspired both of these inventors and the notably brilliant ideas which are incorporated in each system were arrived at by an entirely independent although essentially similar course of reasoning.

Mr. Whipple's limited observation had imbued him with the sole idea of reproducing what could at once be understood and pointed out. He did not place his ideal so high but that the simplest child could comprehend and imitate its features, and thus, by securing a ready understanding from the beginning, many difficulties were obviated.

The inner construction of the throat and the breath passages were not thought of by him as having any direct bearing upon the subject, and consequently in the course of his instruction of the deaf they were never for a moment considered. Whether this was a

mistaken idea the facts alone attesting the almost unvarying success of his system serve as a standard.

While a knowledge of the physiological construction of sound is generally considered as aiding the correct comprehension of articulation by the deaf, that it is not by any means positively necessary can be conclusively proved.* The more stress laid upon

*No better proof can perhaps be offered in support of an argument against the needless importance sometimes attached to the subject of the inner mechanism of sound than the instance of my own case. A pardonable reluctance should perhaps cause to be withheld such an admission of absolute ignorance, but in perfect truth I am constrained to admit a lack of information on the subject of the organs of the throat and their relative positions in the process of producing sound that is extensive to a degree almost inconceivable by those who have made the subject a study either incidentally or methodically.

This unenlightened condition is due partly to the fact of the entire absence of that feature in the system of Mr. Whipple through which I acquired articulation, and by a curious coincidence, the secondary importance given the study of physiology in the curriculum of the Graded schools where later I received my entire education. How far this has influenced my success as a speaker I leave to those among my critics who have personal knowledge of my case to judge. For myself, I have never felt embarrassed in any way whatever by this lack of knowledge, although in more recent years I have desired wider information as a matter of interest, the study of the anatomy of the human system being at all times interesting because of the practical value of such information. As such I considered it without reference to an idea which strangely enough had never suggested itself to me, that to the organs of sound attached greater importance to myself, whom they serve mechanically, than to hearing people, who use them as incidentally and naturally as any other portions of the body.

As a child I was simply made aware of the existence of a voice in my throat, and the process of its formation, the source of its origin, and the passage whence it issued, were alike left unexplained just as the conditions of heat and light, while questioned at first by a developing mind are, from the very fact of their inconceivable mystery, left to reveal themselves as the mind is better fitted to cope with the boundlessness of their origin. The mere fact of their existence is for the present sufficiently satisfied, and thus it is with the wonderful thing called a voice, of which the deaf child is suddenly made aware. No matter precisely where, and exactly how it originates, if the simple fact of its existence remains, with the knowledge that it is there, and can be trained to accurate use, the average child is content in its new-found possession.

In my own case, the multitude of facts pressed each other so closely as to still further obscure this darkly mysterious subject, and instead of peering questioningly into the inner recesses, whence emanated that enigmatic thing they told me was sound, I was satisfied with the self-evident fact of ownership, and in the subsequent training I received in the proper usage, and the acquirement of a degree of control of this restored faculty, I grew more and more satisfied to allow the riddle to remain unsolved.

Latterly the habit, in addition to a possible feeling that a closer inquiry might result in a confusion of ideas which would at least be a temporary disadvantage, restrained me from exploring the subject, and so the time passed and I outgrew the inquiring turn of mind which so unmistakably characterizes the youngster in general.

Whether or not my training was in error, it certainly has resulted in no disadvantage as I can attest, and as I believe will be freely admitted by others beside myself.

the functions of the invisible organs which are virtually imaginary, the greater the consequent confusion in the mind of the pupil, and the more numerous the details he is obliged to master in order to comprehend clearly the nature of what he is learning. Whatever does away with any portion of the overwhelming mass of detail which must be imparted removes a proportionate number of obstacles to ready understanding and rapid progress, and that commendable feature the Natural Alphabet system possesses in a conspicuous degree.

As in phonetic spelling, the same symbol answers in some cases for different letters when the sound produced is the same. No silent letters are included in a word reproduced in the symbols, and wherever possible the idea of combination is conveyed, so as to represent the incorporation of one sound into another with the effect of one effort and no perceptible pause between. This adds to the simplicity and force of expression, and tends further to reduce to a minimum the rudimentary details to be applied.

This being in detail the sum total of the points considered in the application of the system, the next topic is the manner of its demonstration through the medium of the teacher to the mind of the pupil.

Of the earlier methods of Mr. Whipple very little can be related, as that period is necessarily vague. No organized system then existed, as a matter of fact, and in proof of this the following story which remains to us is conclusive.

A young child was brought to Mr. Whipple at that early period, who was too small to be reached by ordinary methods. As no way then existed of understanding each other, in order to establish communication Mr. Whipple hit upon a novel expedient. A beginning had to be made; so he simply took the child on his knee and held him patiently until he cried, then quickly thrusting his hand to his throat, he gave him the first lesson.

As time and usage developed the theories of Mr. Whipple, a vastly improved method naturally resulted which in its rudimental points doubtless resembled that pursued by many articulation teachers of to-day; the subject having been so thoroughly discussed and such extensive comparisons made, the history of the first steps in the process of imparting one system is virtually that of another.

The first object aimed at was of course that of developing the voice, and making the pupil aware of its existence, as in the case of the youngster whose initiation was cited above. Various

pretexts were devised for producing the sound desired in order to establish a precedent, and in some cases it was necessary to resort to arousing the emotions by laughter or tears. Having accomplished this point, with the pupil at last awakened to the consciousness of possessing a voice, the next step naturally was the beginning of a training in its use. The simplest sound known was selected as a preliminary to others more difficult, and Mr. Whipple invariably selected the sound of *o* in *do* as this stepping stone. With one hand of the pupil beneath the chin or against the breast of the teacher and the other against his own, the idea of vocalization was first conveyed to the child. Then selecting this simple sound of *o*, through the vibrations felt upon the hands* it was, after numerous attempts, finally pronounced, and the symbol representing the sound was drawn on the blackboard and easily explained by pointing out the resemblance between the shape of the symbol and the circular form of the opening made by the lips. Thus, from the beginning a definite idea was imparted by the outward appearance of each sound, and in the mind of the pupil a direct association was established between the position of the visible organs and the sound they formed when in that position.

In the case of the aspirates, the idea was of course conveyed through holding the hand before the mouth so as to feel the expulsion of breath, and in the nasal sounds by indicating the passage of sounds through the upper portion of the face into the nose. In writing the characters, as already explained, the arrows indicated the breath sounds, the heavier shading denoted vocalization, while the three nasal sounds, *m*, *n*, and *ng*, were definitely associated, by this peculiar formation, with the line indicating the nasal passage on the familiar physiological chart.

That Mr. Whipple's position regarding the importance of "Feeling Sound" was well taken, only a deaf person whom it has

*The exercise which Mr. Whipple called "Feeling Sound" was one upon the importance of which as an aid to lip-reading he laid particular stress, and it entered extensively into all the details of teaching articulation as well.

In a number of the *Home School Journal*, published and edited by him at the school, Mr. Whipple takes occasion to say: "The first lesson should not be continued too long, and care should be taken not to discourage the pupil. * * * * * To show the child that a difference exists in the sound of certain letters place his hand on your throat, and speak very slowly, first *b*, then *p*. Then *ç* and *z* in the same way. The exercise in feeling sound will be found most beneficial, as in that way the pupil can very easily be taught to distinguish between a whisper and an audible sound."

aided, can adequately comprehend and attest. Through its offices, any misapprehension on the part of a lip-reader can be instantly corrected, and the most difficult word can be understood in spelling by sound with the addition of this helpful adjunct, without resorting to that alternative, so invariably humiliating to a lip-reader as a signal of defeat, the necessity of reducing to signs or to writing the word or sounds misunderstood. After the earlier training, it of course becomes unnecessary to place the hand of the pupil upon the throat of the speaker, but the theory having been mastered, it should remain in constant practice as expressing the difference in sounds which to the eye alone appear exactly the same.

By simply indicating by a touch the throat, nose, or breath, the teachers of Mr. Whipple quickly conveyed the nature of any sound being uttered. The best example of the efficacy of this practice is that of the similarity between the labials, p, b, and m. In each instance the lips are closed, and the outward appearance is identical, but the accenting of the throat quickly expresses b; p being the breath sound, and m the nasal, each being in turn easily distinguished from the others it resembles so closely to the unassisted eye.

It was one of Mr. Whipple's established customs to experiment with more advanced pupils by spelling unfamiliar words by sound in this way, and requiring them to pronounce them as an entire word after having repeated the single sounds separately. It was somewhat amusing, in the case of the more intelligent among the number, when they grasped the entire word and pronounced it vociferously before the first syllable was fairly finished by the teacher. They were always very triumphant when such an advantage was gained, and as encouragement is more grateful to deaf children than to their hearing companions in view of the discouragements they constantly encounter, it naturally followed that these bright pupils expected approbation for this feat of jumping at conclusions, when in point of fact they had destroyed the practical effect of the exercise. A correction could not be made without manifest inconsistency, to say nothing of wounding their sensitive, ambitious hearts, so, in order to obviate this difficulty, care was taken to select unfamiliar and difficult words, usually geographical names.

When Mr. Whipple exhibited his pupils publicly (as was occasionally the case) it was his custom to invite persons in the audience to select any difficult word that occurred to them and he would prove it possible to transmit it to the child by this process

of spelling by sound, and not only that, but an understanding accompanied the process by which the pupil not only pronounced the word correctly, but afterward reproduced in the Natural Alphabet characters the pictured movements of his own visible vocal organs in repeating this word, thus proving the correctness of his idea of the pronunciation itself. In many instances of this kind he probably could not have reduced to writing the word he pronounced, nor could he have told whether it was the name of a person or place, or something good to eat, but he was able to articulate it correctly and to represent this process of speaking it, which was more to the point.

It is said,* "A prerequisite to the use of spoken words is a knowledge of the order and phonetic value of the elements which enter into them, * * * * Although such a knowledge will not of itself make speakers of the deaf, yet it is fundamental in its nature. * * * * The ability to produce intelligibly the elementary linguistic sounds will not avail, unless the pupil has also a clear conception of the phonetic elements as combined in the particular word which he wishes to utter. * * * * To the vague, uncertain and incorrect notion in the mind of the deaf may be attributed a very large share of their vague, uncertain, and incorrect pronunciation and articulation."

No more convincing arguments could be advanced in support of Mr. Whipple's system of instruction. For the knowledge of phonetic elements he substituted a definite comprehension of the visible formation of each and every sound in our language, thus preventing even the semblance of a doubt in the minds of his pupils as to the proper formation of any word they attempted. From the beginning Mr. Whipple made most strenuous efforts to remove this admirably defined, "vague, uncertain, and incorrect notion" of pronunciation, which is one of the greatest obstacles with which articulation teachers are obliged to cope. How well he succeeded a study of his symbols will attest. Their relationship with the physiological chart was quickly established, the latter having first been explained by a comparison with the real lips, teeth, and tongue it represented, and the resemblance between the characters and the pictured organs was so strong as to require no extended explanation, so that the first steps were attended with very little difficulty or confusion.

*Mr. Edmund Lyon, "Phonetic Manual," page 52.

With beginners, the early steps slightly resembled those of the kindergarten systems now in vogue. The novelty of producing a picture of one's own vocal organs appealed directly to the imagination of the average child, and in imitating the positions depicted by the characters, another source of interest developed. The process of teaching the vowel sounds, the symbols of which represent without exception the shape of the aperture made by the lips as seen from a position directly in front, was one of the simplest and easiest periods of instruction. A mirror was a not unimportant aid sometimes introduced in the course of these demonstrations, as in the reflected face the child was able to discern an unmistakable resemblance between the position of his lips and the symbol representing the sound they were about to utter. After the first lessons the symbols were not explained singly, but as instruction proceeded the characters entering into the formation of each word learned, were reproduced and easily explained by comparison with the physiological chart and with the real organs themselves.

It will perhaps be urged that as an aid to lip-reading, the Natural Alphabet shapes of the various openings made by the lips are of no avail for the reason that all people have not the correct pronunciation which displays these positions properly. The fact remains indisputably, however, that any teacher can and will be able to exhibit a direct resemblance between these pictured positions and practical pronunciation, and as it has been admitted that much of more advanced lip-reading is the result of guess-work, so many movements being practically hidden from view, it follows that whatever aids the acquisition of a clear understanding of these invisible sounds and of the connections between certain letters and words will correspondingly sharpen this sense of perception, to the extent of supplying the invisible elements.

It may be contended by those who advocate the "single word system" that this method of teaching the pupil to write even in the symbols the words he is practising upon, tends to confusion in his mind through combining the two, and results in a consequent loss of time. In support of this, the following argument has been advanced:* "If you teach a mute to write every word immediately after he has learned to pronounce it, he associates that sound directly with the written character, and every time he has to reproduce that sound, he recalls the written character first, and the

*Mr. D. Greenberger, "The Word Method," page 9.

movements of the vocal organs necessary to produce that sound afterwards."

If, however, this association in the mind is that of the picture of the proper pronunciation of the word, as in the case of the Natural Alphabet symbols, is it not a fact that a lasting impression upon the memory is achieved which is an aid whenever that word is uttered until its correct pronunciation becomes a matter of habit and not even this aid of the recollection is invoked? Not merely the printed letters representing the words by a set of arbitrary marks, but the picture of its visible formation remain indelibly upon the memory in consequence of the thorough understanding imparted through the Natural Alphabet, and this being the permanent impression, is it not an advantage to be desired? If the deaf are to be taught to think in spoken words, it would seem that as an aid to the correctness of this idea of the spoken word, the stimulus thus given the memory is of inestimable value.

This picture of the word, given the pupils to remember, was that of the sounds and their formation in the mouth simply by phonetic spelling, unencumbered by the superfluity of letters having no connection whatever with the sound itself, a difficulty in which our language abounds. From the evident simplicity of this method of conveying the idea, it follows that a clear and correct idea is through this medium conveyed to the mind of the pupil of both the principle of lip-reading, based upon the exterior aspect of the word, and the process of correct pronunciation, or visible interior construction.

This reduces to a definite form an additional conception of Mr. Whipple's theory, as demonstrated in his method of instruction. Briefly expressed, it was his conviction that this process of association in the mind between the sound and its appearance as uttered, served alike as an aid to articulation and to lip reading; and in view of this fact, its offices were invoked by Mr. Whipple not only as an aid to the memory but also as a means of proving the correctness of the pupil's idea as to proper pronunciation.

After a thorough practice of various vowel sounds, in order to accustom the vocal organs to their functions, as rapidly as the ability of the individual pupil would admit, simple words were introduced, usually the names of articles in familiar use, so that the idea of the object was directly associated with its name. Sentences followed, incorporating these words, and the aptness of the pupil was the gauge which measured the limit to which the early efforts should extend.

As fast as a word was articulated properly, the Natural Alphabet picture was introduced, and each separate element of its construction fully explained. Subsequently, after speaking it, the pupil was required to reproduce the movements of his own mouth in the word just uttered in order to test the correctness of his conception. The more advanced pupils who were already familiar with the Roman Alphabet required a course of instruction adaptable to their previously acquired knowledge of words and sentences. Instead of retarding their progress, this knowledge of spelling was utilized to the extent of lending substantial aid to their oral advancement; and instead of too much dependence being placed upon written words, a careful study of the positions assumed in the formation of the various sounds of the letters of the alphabet aided in the acquisition of an intelligible pronunciation and an ample vocabulary.

In order to cultivate this latent power, Mr. Whipple inaugurated a series of exhaustive drills in reading and in translating to and from the Natural Alphabet characters. These exercises sometimes consisted of scriptural passages, extracts from well-known poems, or articles on interesting and instructive topics selected by Mr. Whipple, and by him transferred into the form of the symbols when he desired a written or verbal translation. In this way he endeavored to encourage their intelligent interest in the tasks assigned them, and in a certain sense combined work with play. On one occasion through mistake one of the younger pupils was given an exercise for translation intended for one of the older and more advanced scholars. The lesson happened to be a copy of Bryant's *Thanatopsis*, written in the symbols, and for an hour the hapless youngster wrestled with the perplexities of blank verse and the, to him, incomprehensibly expressed sentiments which were far too lofty to be grasped. In despair, the task was finally abandoned, and when the fact reached Mr. Whipple's notice he was much amused at his own mistake. It was explained to the bewildered child that *Thanatopsis* was a very beautiful poem, and he was dismissed with that simple information, only half convinced of the wisdom displayed in Mr. Whipple's literary taste. A more mature understanding led to an eventual appreciation of that grandest of odes to Nature, but that early incident was always indissolubly connected with the perusal of the poem.

Besides these connected exercises, long lists of words were assigned daily for reproduction in the characters of the Natural Alphabet. The method of requiring the pupils to convey independ-

For pupils of the First Class.

[illegible]

ently their ideas of pronunciation had the advantage of a possible and instant correction of erroneous ideas as to the groupings of sounds. The practice of reading the characters partakes of an element of practical utility because very frequently the organs involuntarily imitate the position depicted when the mind is absorbed upon the task of expressing in writing or orally the exercise under consideration. The vocal organs are thus unconsciously familiarized with the duties of placing themselves properly, while at the same time the close study required is productive of a much more extensive knowledge of the grouping of syllables and of the combinations made by certain sounds with each other, than would be possible under a different course of study.

The exercises were under such careful supervision that errors were invariably corrected, and mistaken ideas and inadequate conception rarely escaped detection because the very nature of the lessons was calculated to bring these into prominence.

An exercise is appended that is a literal translation of one which was once given certain pupils.* As this incorporates almost the sole expression available from the pen of Mr. Whipple either in reference to his own labors, or in allusion to his invention, it is of much interest for that reason alone, while it furnishes an example of the means he employed in reaching in a practical and intelligent manner the minds of his pupils. It must be understood, however, that the original copy, from which this transcription was made, was written entirely in the symbols of the Natural Alphabet, and the expressions are couched in the utmost simplicity in order to assist, instead of confusing the pupil by the introduction of unfamiliar or difficult words and phrases. The lesson combined the elements of both practice and applicability, but as a literary production it is no criterion of Mr. Whipple's ability as a writer, and is not offered as such.

He stinted his own power and force of expression in order to adapt his ideas to the minds of those to whom the exercise was addressed, and a consequent contraction was unavoidable. As an expression of some of his own ideas, this is, as has been said, the single instance now at hand, and the translation is given literally for its full value, although not considered by any means a worthy or adequate extract from Mr. Whipple's pen.

*It was Mr. Whipple's custom to provide manifold copies by means of a Papyrograph, for distribution among his pupils.

LECTURE ON LIP-READING.

(AS WRITTEN IN CHARACTERS OF THE NATURAL ALPHABET BY MR. Z. C. WHIPPLE.)

By lip-reading, we mean the art of receiving ideas of spoken words without hearing any sound, by noticing the appearance of the mouth itself.

Some persons object to the term, "lip-reading," giving for the reason of their objection that the term is not sufficiently definite and expressive—that it should rather be "mouth-reading," or "face-reading." But though I acknowledge the truth that not only the lips, but the other organs of the mouth, and in fact the whole face, are employed in speaking and giving expression to the ideas of the mind, yet for my own part I prefer the term, "lip-reading," for the lips are, as it were, the doors of the mouth. They stand in front. They occupy the most prominent and noticeable position. The teeth, tongue, and palate may be seen as they come into position in the formation of certain words, but the lips are employed in the speaking of *every* word. They are either closed or open, pouted or contracted. No matter what word is spoken, whether it be long or short, vocal or aspirate, open or close, we see the lips. We *may* see the teeth, or the tongue, but the lips are always in sight; therefore I feel that the term "lip-reading" has been well applied, and I am not willing to drop it for any other.

A great many old people become partially or quite deaf. Generally when the hearing is impaired by age, the loss is not sudden but very gradual. At first the deafness is perhaps so slight that it is scarcely noticed. As day after day passes, the ears become less and less sensitive to sound until the person finds it hard, without paying the closest attention, to understand what people say. Then it is that the eyes are called upon to supplement the failing powers of the ears.

I have known many instances of self acquired ability to read the lips; but those who have acquired the art without a teacher are those who lost their hearing by slow degrees and who began the study of the lips while yet they could understand by hearing. They acquire the art, but are ignorant of the principles upon which it is based. It takes a longer time to learn lip-reading in that way than it does to learn the principle of the science and then apply the principles to practice.

Those who learn by their own efforts have to master the art by learning each separate word. They have no opportunity to study parts of words and separate sounds, but can only have ordinary conversation with all its disadvantages of haste and imperfectly spoken words, for I wish you to understand that in ordinary conversation people speak far too carelessly, just as they write. It is, in most cases impossible for a deaf mute to learn to read the lips without assistance and special instruction. A deaf mute knows nothing about words excepting as they are written, or printed, or spelled with the fingers. Their sounds he cannot hear. Even if by a miracle his ears should be unstopped and the sounds of a conversation should flow into them, every word would be to him strange and unintelligible.

He would have to learn the language before he could understand it, just as I would have to learn French or German before I could understand what a Frenchman or German might say to me. In order, therefore, for a deaf mute to learn to read the lips, he must be taught all of the positions which the organs of speech are made to assume in uttering any word of our language.

In teaching a deaf mute the elements of speech, the instructor must pursue a course similar to that which he would find necessary in teaching the Natural Alphabet to a pupil who had never talked with the fingers. In both cases the utmost slowness and distinctness is necessary. In teaching the Manual Alphabet, the fingers must be placed in position for a single letter and left in that position until the pupil has time to fix that letter in his memory. Then another letter, and another, until the whole Manual Alphabet is thoroughly learned.

In lip-reading the same process is necessary. The mouth changes its form so rapidly in conversation that the untrained eye cannot follow the ever-varying positions of the lips, teeth, tongue, &c. So it becomes necessary to reduce the forms of spoken words to an alphabet, just as the forms of printed and written words, and of digital words are based upon the Roman Script and Manual Alphabets.

For years it was my constant study to discover a method of representing the elementary forms of words, so that my pupils could learn the alphabet of speech and proceed systematically with their studies, just as other learners acquire a knowledge of the alphabet of Roman letters, and then proceed to the study of books. When I had invented the Natural Alphabet, I felt that the desired

object had been attained, and its subsequent use in my school has greatly confirmed me in my high estimate of its usefulness.

Lip-reading is not only an art but a science. The most rapid progress in lip-reading depends upon two kinds of training. The first is, training of the mind to understand the principles of the science; the second is the training of the eye in actual practice of the art. I will explain this to you more fully. You know that I have been for several years carefully studying the mouth to discover everything that pertains to speech. I have divided the sentences into words, and have analyzed words into sounds. I know which sounds look most alike, and which are the easiest to see. Also which are formed in the front part of the mouth, which in the middle, and which are formed in the throat. But though I have studied the theory of lip-reading and understand it much better than you do, yet I cannot read the lips as well as you can because I lack the necessary practice. But if I should become deaf, the study that I have given to the theory of lip-reading would make it much easier for me to acquire the art than it would otherwise be. So you see that not only practice but study is needed to make one a proficient reader of the lips.

I will try to give you a few hints which will help you to overcome some of the difficulties of lip-reading. After you have learned the Natural Alphabet so that you can distinguish the different letters of it when they are spoken by the teacher, the next thing to notice is that in the moving of the mouth from one position to another, not only the positions of the organs of speech must be studied, but their motions as well.

The letters of the Natural Alphabet represent the organs in fixed positions, just as the pictures of the Manual Alphabet represent the hand in its fixed positions. But when we are using the fingers in conversation, they are continually changing from one position to another, in making the different letters, and we have to follow these changes with the eye. It is the same in reading the lips. This will have a tendency to confuse you at first, for it is hard to follow with the eye anything that is in motion. But practice will overcome the difficulty.

It often happens that the last letter of one word is the same as the first letter of the word which comes after. In those cases the letter is formed only once with the tongue or lips, and both words have the appearance of only one word. Take for example the words "at two." The tongue goes up to the gum when we speak "at"

and remains there until we proceed to speak "two." So we only see one t, and both words are so joined as to look like one word. I will give you a few more examples: "of freedom, far reaching, Miss Sisson, last Tuesday, did not, lost nothing, ask questions, can talk, it did."

Another point for you to observe is the *emphasis*. Those places where we give greater stress on a word serve as catching places where we may gain new foothold for our thoughts.

Any person may learn to read the lips, but some have a natural talent for the art, and learn very easily, while others have to study hard for every new idea, and proceed step by step, very slowly. Some appear to catch a whole sentence as if by instinct, while others have to spell out each word slowly and laboriously.

But all who persevere may succeed. All of my pupils, I am sure, can master this most important art. A determined purpose and faithful study, with the blessing of our Heavenly Father will crown your efforts with the most complete success.

This is but one of many similar exercises given the more advanced pupils, who acquired an understanding during the process of translation of not only the subject of the lesson but the construction and appearance of each of the words it contained. For a time Mr. Whipple wrote for a daily lesson a diary in either the Natural Alphabet, or Roman Script, alternating between the two, and the pupils were required to read these aloud, unfamiliar words being explained in the course of the lesson. It sometimes happened that in writing the exercises to be transferred to the symbols, Mr. Whipple would use a word that to him appeared difficult of comprehension, so he wisely inserted the Natural Alphabet picture of its formation immediately following.

His object was to gain for them constant practice in conversing upon the subject of daily occurrences, and in some cases this was the initial step in training them to give expression to their thoughts, and to comment upon the various happenings which met their notice. To quote from a letter to the pupils which Mr. Whipple one day substituted for the usual page of diary, "In this way you will find out all that is going on, and you will also learn many new words. You will see how to put words together, to tell what you see and what you think about."

Possessing a highly developed artistic ability, Mr. Whipple also illustrated many of these exercises with drawings which were verbally explained both as to their use and composition. It must be remembered that every word of a lesson was articulated, and its meaning understood, before it was laid aside, every conceivable means thus being utilized for adding to the pupils' vocabulary and inciting them to oral expression, while at the same time there was an endeavor to instill an abiding impression of the correct process of pronouncing each successive word acquired.

It has already been said that the method of teaching the younger children was not dissimilar from that now generally in use, with the additional aid of the chart and the illustrative symbols. Mr. Whipple mingled with his pupils in a happy spirit of *camaraderie*, joining in their frolics, and interpolating object lessons anywhere and everywhere, in order to secure a direct association between the words learned and the objects they indicated.

His magnetic influence did much toward inciting their most ambitious efforts, and his delight at any display of aptness rendered the small men and women most desirous of pleasing him and thus soliciting additional expressions of approval. He believed in teaching them sentences as rapidly as possible, and aimed to emulate essentially the education of a hearing child.

He did not wish his pupils to express their ideas in a single word, but to master complete sentences, and to express themselves concisely and understandingly.

In the case of pupils from a distance who were prevented from pursuing a more extended course of study at the school, Mr. Whipple often furnished a set of Alphabet Charts for home practice, and willingly extended every possible aid in that direction. From this fact the idea gained credence among the deaf that the system could be self-taught, and numerous applications and letters of inquiry began to pour in upon Mr. Whipple, requesting copies of the Alphabet and instructions for home tuition. This erroneous impression Mr. Whipple refutes in a copy of the *Home Journal* (April, 1876), but he reiterates at the same time his offer of assistance in the case of those who acquire the elementary principles under his personal direction at the school, and extends the privilege of returning to the school at intervals for the purpose of correcting their articulation and receiving additional instruction—a most generous offer and one thoroughly indicative of Mr. Whipple's

belief in the accomplishment of much possible good through the offices of his invention.

In several instances, the articulation schools of to-day discourage the admission of adult pupils and virtually insist that only constant and concentrated effort and untiring attention on the part of teachers of the deaf from infancy up will endow them with a satisfactory form of articulation. Mr. Whipple's faith in the feasibility of the vocal instruction of the adult deaf was supreme and well founded. His not overreaching ambition was to benefit old and young alike, believing as he did that only a lack of perseverance on the part of the pupil would permanently retard their natural progress, the simplicity of the first steps obviating any difficulty in grasping the elementary sense, and cultivation and practice of the latent power of speech being the sole requisite thereafter.

The actuating motives which seem to have inspired Mr. Whipple to the invention of the symbols and the *modus operandi* of his system in application in a manner calculated to accomplish the most far-reaching results are these :

First: Perfect simplicity in conception and detail.

Second: Conciseness and the total disregard of unnecessary and technical terms; and

Third: Practical adaptability to the needs of the deaf of all ages.

These points having been severally discussed in detail, but little remains to be said. It is always a perilous undertaking to analyze other people's motives, particularly when we have only the record of a life and its achievements from which to judge, and a large proportion of conjecture is correspondingly indefinite and wide of the mark. The present instance is perhaps no exception, and many points herein made are doubtless incorporated in other systems at this advanced stage of the development of articulation teaching and the most advantageous manner of reaching the deaf in order to advance their general condition. The manifest completeness of detail and the simple worth of his motives commend Mr. Whipple's system to highest appreciation. In the entire absence of all precedent at the period of their conception, it will be conceded that the originality of method and detail is absolutely unquestioned, and that to Mr. Whipple justly belongs a measure of justice and appreciation which has augmented in direct ratio to the time it has been withheld.

The more distinctly original features of his belief have received most careful attention in this discussion. They were believed to possess great importance as a topic for consideration and debate in this season of careful comparison of the different methods of teaching the deaf, which holds the welfare of this afflicted class in the present as well as the future ever and always in view. To a thoughtful observer this theory will speak for itself, as, like the character the man whose life work it was, it embodied his distinguishing traits. It was simple, unpretending, straightforward, and endowed with the power of accomplishing untold good in behalf of those, "Who," in the literal sense of the word, "have ears, but hear not."

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